



US006396391B1

(12) **United States Patent
Binder**

(10) **Patent No.: US 6,396,391 B1**
(45) **Date of Patent: May 28, 2002**

(54) **COMMUNICATIONS AND CONTROL
NETWORK HAVING MULTIPLE POWER
SUPPLIES**

(75) Inventor: **Yehuda Binder**, Hod Hasharon (IL)

(73) Assignee: **Serconet Ltd.**, Netanya (IL)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/141,321**

(22) Filed: **Aug. 27, 1998**

(51) **Int. Cl.**⁷ **H04M 11/04**

(52) **U.S. Cl.** **340/310.01**; 340/310.05;
340/310.06; 340/310.07; 455/3.3; 375/258

(58) **Field of Search** 340/310.01, 310.05,
340/310.06, 310.07; 455/3.3, 3.1, 280;
375/257, 258, 259

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,824,450 A	7/1974	Johnson et al.	323/272
4,101,862 A	7/1978	Takagi et al.	338/23
4,238,812 A	12/1980	Middleman et al.	361/106
4,609,828 A	9/1986	Small	307/44
5,081,440 A	1/1992	Ott et al.	323/23
5,095,417 A	3/1992	Hagiwara et al.	700/9

5,148,144 A	9/1992	Sutterlin et al.	340/310.01
5,200,643 A	4/1993	Brown	307/53
5,424,710 A	6/1995	Baumann	323/23
5,454,008 A	9/1995	Baumann et al.	375/369
5,469,150 A	11/1995	Sitte	340/825.07
5,475,687 A	12/1995	Markkula, Jr. et al.	709/224
5,652,893 A	7/1997	Ben-Meir et al.	323/23
5,805,053 A *	9/1998	Patel et al.	340/310.01
5,949,327 A *	9/1999	Brown	340/310.01

FOREIGN PATENT DOCUMENTS

WO 9415424 7/1994

* cited by examiner

Primary Examiner—Daryl Pope

(74) *Attorney, Agent, or Firm*—Browdy and Neimark

(57) **ABSTRACT**

A network allowing for communication, sensing and control, comprising at least three nodes interconnected by a bus for conveying both power and data. The bus includes at least two power carrying conductors, which may be used to convey the data together with the power, and across which at least two power supplies are connected via respective source couplers at different points thereof. Preferably, there are connected to the nodes one or more payloads that may be powered by local power supplies so as to provide greater fault-protection and flexibility.

19 Claims, 8 Drawing Sheets

